Drinking Water Surveillance Program

FORT ERIE (ROSEHILL) WATER TREATMENT PLANT

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FORT ERIE (ROSEHILL) WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

FORT ERIE WATER TREATMENT PLANT
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The Fort Erie (Rosehill) Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. This plant has a design capacity of 50 x 1000 m^3/day and serves a population of approximately 25,000.

Water samples from the raw, treated and two distribution system sites were taken on a monthly basis and analyzed for the presence of approximately 180 parameters. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polyaromatic Hydrocarbons, Specific Pesticides and Volatiles). Samples were analyzed Specific Pesticides and Chlorophenols in June and November only.

A summary of results is shown in Table A.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related guidelines.

Samples were analyzed monthly for the presence of approximately 110 Organics. Levels did not exceed health related guidelines.

During 1989, the DWSP sampling results indicated that the Fort Erie (Rosehill) Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP)

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	30	19	63	30	2	6	21	7	33	24	10	41
CHEMISTRY (FLD)	38	38	100	69	69	100	95	79	83	77	60	77
CHEMISTRY (LAB)	233	195	83	252	182	72	315	284	90	296	266	89
METALS	265	160	60	288	149	51	422	249	59	376	213	56
CHLOROAROMATICS	168	0	0	168	0	0	126	0	0	112	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.	.	.	.
PAH	177	0	0	192	0	0	.	.	.	.	.	.
PESTICIDES & PCB	408	0	0	408	0	0	241	0	0	220	0	0
PHENOLICS	12	8	66	12	8	66	.	.	.	.	.	.
SPECIFIC PESTICIDES	53	0	0	65	0	0	9	0	0	8	0	0
VOLATILES	348	1	0	348	48	13	232	32	13	232	32	13
TOTAL	1744	421		1844	458		1461	651		1345	581	

NO KNOWN HEALTH-RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

FORT ERIE (ROSEHILL) WATER TREATMENT PLANT
1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

Limited DWSP sampling was initiated at the Fort Erie (Rosehill) Water Treatment Plant in February of 1987; the full program began in June. Annual reports were published for 1987 and 1988 (ISSN 0840-5182).

This report contains information and results for 1989.

In order to accommodate the increasing number of plants on the DWSP and to facilitate the timely completion of the 1989 annual reports, plants with two or more years of published data will receive an abbreviated annual report. This report maintains the same general format as in previous years but does not include a comprehensive discussion of the results. For more detail on the parameters analyzed and discussion of results, consult the 1987 and 1988 reports.

PLANT DESCRIPTION

The Fort Erie (Rosehill) Water Treatment Plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Powdered activated carbon is used for taste and odour control when necessary. This plant has a design capacity of 50 x 1000 m^3/day and flows on day of sampling ranging from 10 x 1000 m^3/day to 30 x 1000 m^3/day. The plant serves a population of approximately 25,000.

The plant location is shown in Figure 1. Plant Process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLING AND ANALYSIS

Plant operating personnel perform analyses on parameters for process control (Table 1).

Water at the Fort Erie (Rosehill) Water Treatment Plant and two distribution locations was sampled for the presence of approximately 180 parameters monthly in 1989. Samples were analyzed for Specific Pesticides and Chlorophenols in June and November only. Polyaromatic Hydrocarbons and Phenolics are only analyzed in the raw and treated water at the plant.

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

FORT ERIE WATER TREATMENT PLANT

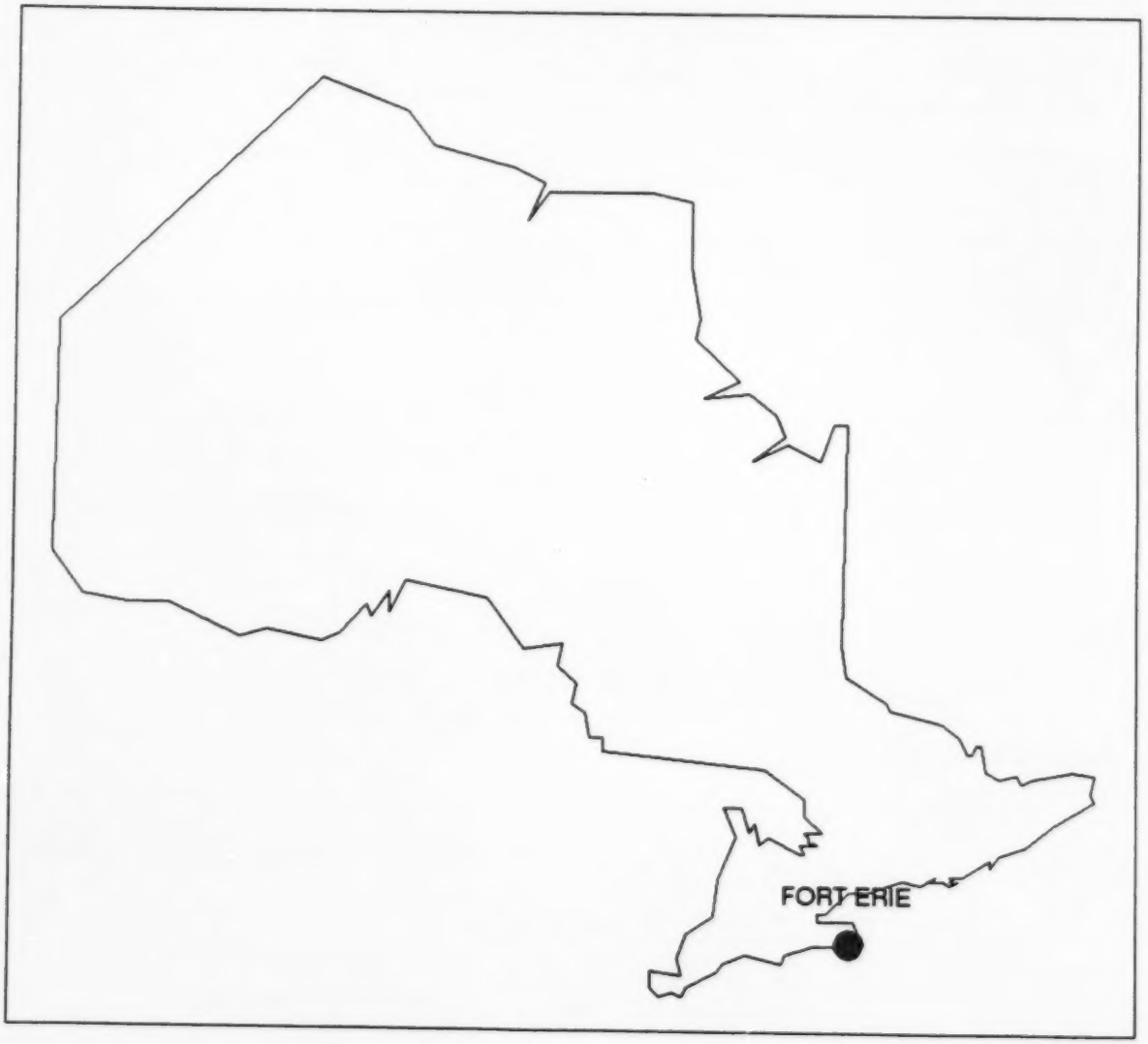

FIGURE 2

ROSE HILL WTP

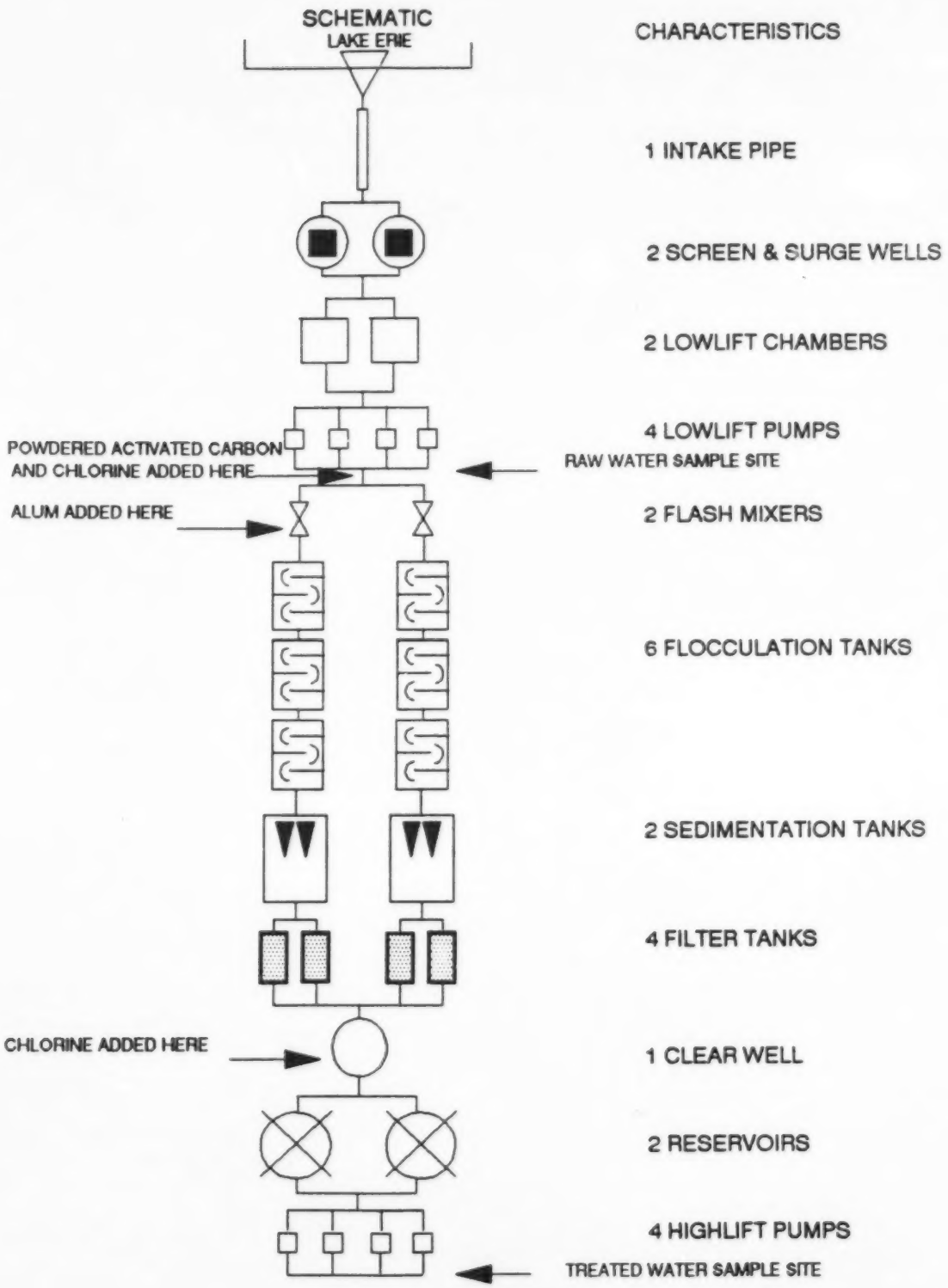

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

IN-PLANT MONITORING FORT ERIE (ROSEHILL) WTP 1989

PARAMETER	LOCATION	FREQUENCY
Chlorine residual-free	Lowlift discharge	continuous
	Settled water	every 4 hrs
	Filtered water	every 4 hrs
	Clear well	continuous
	Highlift discharge	every 4 hrs
Temperature	Raw water	continuous
Turbidity	Lowlift discharge	continuous
	Settled water	every 4 hrs
	Filtered water	continuous
	Filtered water	every 4 hrs
	Highlift discharge	every 4 hrs

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

Fort Erie (Rosehill) WATER SUPPLY SYSTEM

LOCATION:	ROSEHILL ROAD Fort Erie (Rosehill), ONTARIO (416-871-3551)
SOURCE:	RAW WATER SOURCE - LAKE ERIE
RATED CAPACITY:	50 (1000 M3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	MR. H. HODGSON
MINISTRY REGION:	WEST CENTRAL
DISTRICT OFFICER:	MR. J. MAYES

MUNICIPALITY SERVED	POPULATION
Fort Erie (Rosehill)	25,000

As of August 1989, the analysis of Triazine pesticides was dropped from the distribution sample. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP database as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analyzed by parameter and by water type. The number of times that a positive or trace result was detected is also reported. Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analyzed in the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters. These are currently under review. When an ODWO is not available, guidelines/limits from other agencies are consulted. The Parameter Listing System (PALIS), recently published (ISSN 7729-4461-X) by the MOE, catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occurring or are treatment by-products.

IN THIS REPORT, DISCUSSION IS LIMITED TO THE TREATED AND DISTRIBUTED WATER AND ADDRESSES ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES AND

ORGANICS WITH DETECTED POSITIVE RESULTS.

Results of the treated and distributed water indicate that no health related ODWO was exceeded during 1989.

Bacteriology

Standard Plate Count

The ODWO for standard plate count of 500 counts/mL was exceeded in the June and July distribution samples indicating some deterioration in water quality.

Inorganic and Physical Parameters

Colour

The aesthetic ODWO of 5 True Colour Units (TCU) was exceeded seven times in the distribution system.

Hardness

The ODWOs indicate that a hardness level of between 80 and 100 mg/L, as calcium carbonate for domestic waters, provides an acceptable balance between corrosion and encrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption.

Aluminum

The plant operational guideline of 100 µg/L as Al in water leaving the plant was exceeded in seven treated and distributed water samples.

Iron

The aesthetic ODWO for Iron of 300 µg/L was exceeded three times at one distribution system site.

Organic Parameters

Trihalomethanes

Trihalomethanes (THMs) are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. All Total THM occurrences, ranging from 18.0 to 46.9 µg/L, were well below the ODWO of 350 µg/L.

CONCLUSIONS

Results listed in this report for 1989 are consistent with results reported for previous years.

No health related water quality guidelines were exceeded.

The treated water was of good quality and this was maintained in the distribution system.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) SAMPLE DAY CONDITIONS FOR 1989

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)				
			PRE-CHLORINATION	COAGULATION		POST-CHLORINATION	TASTE & ODOUR
			CHLORINE	ALUM LIQUID	POLYALUMINUM CHLORIDE	CHLORINE	ACTIVATED CARBON POWDER
DATE	DELAY* TIME(HRS)	FLOW (1000M3)					
JAN 24	.7	13.0	1.10	6.50	.	.25	.
FEB 22	23.4	10.0	.75	6.00	.	.25	.
MAR 30	23.5	12.0	.65	4.00	.	.25	.
APR 25	23.5	10.0	1.15	.	2.00	.45	.
MAY 23	23.9	14.0	.90	6.00	.	.35	.
JUN 20	23.9	14.0	1.25	4.00	.	.30	.
JUL 25	23.5	30.0	1.95	5.00	.	.40	3.00
AUG 29	23.5	25.0	1.70	5.50	.	.40	1.00
SEP 18	23.5	15.0	1.45	4.00	.	.35	.
OCT 24	23.5	.0	1.20	5.50	.	.25	.
NOV 28	23.0	12.0	.85	6.00	.	.30	.
DEC 19	22.0	12.0	.65	6.00	.	.30	.

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	10	4	0	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	10	2	0	7	4	0	8	4	0
	TOTAL COLIFORM MF	10	5	0	10	0	0	7	0	0	8	0	0
	T COLIFORM BCKGRD MF	10	10	0	10	0	0	7	3	0	8	6	0
*TOTAL SCAN BACTERIOLOGICAL		30	19	0	30	2	0	21	7	0	24	10	0
*TOTAL GROUP BACTERIOLOGICAL		30	19	0	30	2	0	21	7	0	24	10	0
CHEMIS (FLD)	FLD CHLORINE (COMB)	2	2	0	12	12	0	15	9	0	10	2	0
	FLD CHLORINE FREE	2	2	0	12	12	0	18	18	0	12	7	0
	FLD CHLORINE (TOTAL)	2	2	0	12	12	0	18	18	0	14	10	0
	FLD PH	9	9	0	9	9	0	16	16	0	16	16	0
	FLD TEMPERATURE	11	11	0	12	12	0	18	18	0	16	16	0
	FLD TURBIDITY	12	12	0	12	12	0	10	0	0	9	9	0
*TOTAL SCAN CHEMISTRY (FLD)		38	38	0	69	69	0	95	79	0	77	60	0
CHEMISTRY (LAB)	ALKALINITY	11	11	0	12	12	0	17	17	0	16	16	0
	CALCIUM	11	11	0	12	12	0	17	17	0	16	16	0
	CYANIDE	12	0	1	12	0	0	9	0	0	8	0	0
	CHLORIDE	11	11	0	12	12	0	16	16	0	16	16	0
	COLOUR	11	4	7	12	0	12	17	16	1	16	16	0
	CONDUCTIVITY	11	11	0	12	12	0	17	17	0	16	16	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	FLUORIDE	11	11	0	12	12	0	17	17	0	16	16	0
	HARDNESS	11	11	0	12	12	0	17	17	0	16	16	0
	IONCAL	12	11	0	12	12	0	18	16	0	16	16	0
	LANGELIERS INDEX	11	11	0	12	12	0	17	17	0	16	16	0
	MAGNESIUM	11	11	0	12	12	0	17	17	0	16	16	0
	SODIUM	11	11	0	12	12	0	17	17	0	16	16	0
	AMMONIUM TOTAL	11	8	1	12	1	7	17	11	2	16	8	3
	NITRITE	11	7	4	12	1	9	17	4	12	16	2	14
	TOTAL NITRATES	11	11	0	12	11	1	17	17	0	16	16	0
	NITROGEN TOT KJELD	11	11	0	12	12	0	17	17	0	16	16	0
	PH	11	11	0	12	12	0	17	17	0	16	16	0
	PHOSPHORUS FIL REACT	11	1	5	12	0	5	.	.	.	.	.	.
	PHOSPHORUS TOTAL	11	10	1	12	2	9	.	.	.	.	.	.
	SULPHATE	11	11	0	12	12	0	17	17	0	16	16	0
	TURBIDITY	11	11	0	12	11	1	17	17	0	16	16	0
*TOTAL SCAN CHEMISTRY (LAB)		233	195	19	252	182	44	315	284	15	296	266	17
METALS	SILVER	11	0	2	12	0	4	18	0	8	16	0	2
	ALUMINUM	11	11	0	12	12	0	18	18	0	16	15	1
	ARSENIC	11	6	5	12	5	6	18	1	15	16	1	13
	BARIUM	11	11	0	12	12	0	18	18	0	16	16	0
	BORON	11	10	1	12	12	0	18	17	1	16	15	1
	BERYLLIUM	11	0	6	12	0	7	18	0	7	16	0	8

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
METALS	CADMIUM	11	0	5	12	0	3	18	0	4	16	3	7
	COBALT	11	0	11	12	0	11	18	0	17	16	0	15
	CHROMIUM	11	6	5	12	8	2	18	11	4	16	10	5
	COPPER	11	10	1	12	9	3	18	18	0	16	15	1
	IRON	11	6	5	12	0	4	18	17	1	16	15	0
	MERCURY	12	9	3	12	8	4	9	7	2	8	0	4
	MANGANESE	11	11	0	12	9	3	18	18	0	16	15	0
	MOLYBDENUM	11	11	0	12	12	0	18	18	0	16	16	0
	NICKEL	11	3	8	12	2	10	18	7	11	16	4	11
	LEAD	11	10	1	12	4	6	18	17	1	16	15	1
	ANTIMONY	11	11	0	12	12	0	18	18	0	16	16	0
	SELENIUM	11	0	6	12	1	9	18	0	17	16	2	11
	STRONTIUM	11	11	0	12	12	0	18	18	0	16	16	0
	TITANIUM	11	11	0	12	10	2	18	14	4	16	11	5
	THALLIUM	11	0	3	12	0	5	18	0	7	16	0	6
	URANIUM	11	10	1	12	11	1	17	15	2	16	13	3
	VANADIUM	11	2	9	12	0	12	18	0	18	16	0	16
	ZINC	11	11	0	12	10	2	18	17	1	16	15	1
*TOTAL SCAN METALS		265	160	72	288	149	94	422	249	120	376	213	111
*TOTAL GROUP INORGANIC & PHYSICAL		536	393	91	609	400	138	832	612	135	749	539	128
CHLOROAROMATICS	HEXACHLOROBUTADIENE	12	0	0	12	0	0	9	0	0	8	0	0
	123 TRICHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
CHLOROAROMATICS	1234 T-CHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	1235 T-CHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	124 TRICHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	1245 T-CHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	HCB	12	0	0	12	0	0	9	0	0	8	0	0
	HEXACHLOROETHANE	12	0	0	12	0	0	9	0	0	8	0	0
	OCTACHLOROSTYRENE	12	0	0	12	0	0	9	0	0	8	0	0
	PENTACHLOROBENZENE	12	0	0	12	0	0	9	0	0	8	0	0
	236 TRICHLOROTOLUENE	12	0	0	12	0	0	9	0	0	8	0	0
	245 TRICHLOROTOLUENE	12	0	0	12	0	0	9	0	0	8	0	0
	26A TRICHLOROTOLUENE	12	0	0	12	0	0	9	0	0	8	0	0
*TOTAL SCAN CHLOROAROMATICS		168	0	0	168	0	0	126	0	0	112	0	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PAH	PHENANTHRENE	11	0	0	12	0	0	.	.	.	.	.	.
	ANTHRACENE	11	0	0	12	0	0	.	.	.	.	.	.
	FLUORANTHENE	11	0	0	12	0	0	.	.	.	.	.	.
	PYRENE	11	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	11	0	0	12	0	0	.	.	.	.	.	.
	CHRYSENE	11	0	0	12	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	6	0	0	6	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	11	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	11	0	0	12	0	0	.	.	.	.	.	.
	PERYLENE	11	0	0	12	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	11	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	6	0	0	6	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	11	0	0	12	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	11	0	0	12	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	11	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	11	0	0	12	0	0	.	.	.	.	.	.
	CORONENE	11	0	0	12	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		177	0	0	192	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	12	0	0	12	0	0	9	0	0	8	0	0
	ALPHA BHC	12	0	7	12	0	6	9	0	4	8	0	2
	BETA BHC	12	0	0	12	0	0	9	0	0	8	0	0
	LINDANE	12	0	0	12	0	0	9	0	0	8	0	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	12	0	0	12	0	0	9	0	0	8	0	0
	GAMMA CHLORDANE	12	0	0	12	0	0	9	0	0	8	0	0
	DIELDRIN	12	0	0	12	0	0	9	0	0	8	0	0
	METHOXYCHLOR	12	0	0	12	0	0	9	0	0	8	0	0
	ENDOSULFAN 1	12	0	0	12	0	0	9	0	0	8	0	0
	ENDOSULFAN 11	12	0	0	12	0	0	9	0	0	8	0	0
	ENDRIN	12	0	0	12	0	0	9	0	0	8	0	0
	ENDOSULFAN SULPHATE	12	0	0	12	0	0	9	0	0	8	0	0
	HEPTACHLOR EPOXIDE	12	0	0	12	0	0	9	0	0	8	0	0
	HEPTACHLOR	12	0	0	12	0	0	9	0	0	8	0	0
	MIREX	12	0	0	12	0	0	9	0	0	8	0	0
	OXYCHLORDANE	12	0	0	12	0	0	9	0	0	8	0	0
	OPDDT	12	0	0	12	0	0	9	0	0	8	0	0
	PCB	12	0	0	12	0	0	9	0	0	8	0	0
	DDD	12	0	0	12	0	0	9	0	0	8	0	0
	PPDDE	12	0	0	12	0	0	9	0	0	8	0	0
	PPDDT	12	0	0	12	0	0	9	0	0	8	0	0
	AMETRINE	12	0	0	12	0	0	4	0	0	4	0	0
	ATRAZINE	12	0	0	12	0	0	4	0	0	4	0	0
	ATRATONE	12	0	0	12	0	0	4	0	0	4	0	0
	CYANAZINE (BLADEX)	12	0	0	12	0	0	4	0	0	4	0	0
	D-ETHYL ATRAZINE	12	0	0	12	0	0	4	0	0	4	0	0
	D-ETHYL SIMAZINE	12	0	0	12	0	0	4	0	0	4	0	0
	PROMETONE	12	0	0	12	0	0	4	0	0	4	0	0
	PROPAZINE	12	0	0	12	0	0	4	0	0	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PESTICIDES & PCB	PROMETRYNE	12	0	0	12	0	0	4	0	0	4	0	0
	METRIBUZIN (SENCOR)	12	0	0	12	0	0	4	0	0	4	0	0
	SIMAZINE	12	0	0	12	0	0	4	0	0	4	0	0
	ALACHLOR (LASSO)	12	0	0	12	0	0	4	0	0	4	0	0
	METOLACHLOR	12	0	0	12	0	0	4	0	0	4	0	0
*TOTAL SCAN PESTICIDES & PCB		408	0	7	408	0	6	241	0	4	220	0	3
PHENOLICS	PHENOLICS	12	8	4	12	8	4	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		12	8	4	12	8	4	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	12	0	0	12	0	0	9	0	0	8	0	0
	2,4,5-T	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-DB	2	0	0	2	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.	.	.
	DIAZINON	1	0	0	2	0	0	.	.	.	.	.	.
	DICHLOROVOS	1	0	0	2	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	1	0	0	2	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
SPECIFIC PESTICIDES	ETHION	1	0	0	2	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	1	0	0	2	0	0	.	.	.	.	.	.
	MEVINPHOS	1	0	0	2	0	0	.	.	.	.	.	.
	METHYL PARATHION	1	0	0	2	0	0	.	.	.	.	.	.
	METHYLTRITHION	1	0	0	2	0	0	.	.	.	.	.	.
	PARATHION	1	0	0	2	0	0	.	.	.	.	.	.
	PHORATE	1	0	0	2	0	0	.	.	.	.	.	.
	RELDAN	1	0	0	2	0	0	.	.	.	.	.	.
	RONNEL	1	0	0	2	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENOMYL	1	0	0	1	0	0	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.	.	.
	DIALLATE	2	0	0	2	0	0	.	.	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		53	0	0	65	0	0	9	0	0	8	0	0
VOLATILES	BENZENE	12	0	0	12	0	0	8	0	0	8	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
VOLATILES	TOLUENE	12	0	2	12	0	4	8	0	1	8	0	2
	ETHYLBENZENE	12	0	0	12	0	1	8	0	0	8	0	2
	P-XYLENE	12	0	0	12	0	0	8	0	0	8	0	0
	M-XYLENE	12	0	0	12	0	0	8	0	0	8	0	0
	O-XYLENE	12	0	0	12	0	1	8	0	0	8	0	0
	STYRENE	12	0	10	12	0	9	8	0	5	8	0	6
	1,1 DICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	8	0	0
	METHYLENE CHLORIDE	12	0	0	12	0	0	8	0	0	8	0	0
	T1,2DICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	8	0	0
	1,1 DICHLOROETHANE	12	0	0	12	0	0	8	0	0	8	0	0
	CHLOROFORM	12	0	2	12	12	0	8	8	0	8	8	0
	111, TRICHLOROETHANE	12	0	1	12	0	0	8	0	2	8	0	2
	1,2 DICHLOROETHANE	12	0	0	12	0	0	8	0	0	8	0	0
	CARBON TETRACHLORIDE	12	0	0	12	0	0	8	0	1	8	0	0
	1,2 DICHLOROPROPANE	12	0	0	12	0	0	8	0	0	8	0	0
	TRICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	8	0	0
	DICHLOROBROMOMETHANE	12	1	1	12	12	0	8	8	0	8	8	0
	112 TRICHLOROETHANE	12	0	0	12	0	0	8	0	0	8	0	0
	CHLORODIBROMOMETHANE	12	0	2	12	12	0	8	8	0	8	8	0
	T-CHLOROETHYLENE	12	0	0	12	0	3	8	0	1	8	0	1
	BROMOFORM	12	0	0	12	0	10	8	0	7	8	0	7
	1122 T-CHLOROETHANE	12	0	0	12	0	0	8	0	0	8	0	0
	CHLOROBENZENE	12	0	0	12	0	0	8	0	0	8	0	0
	1,4 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	8	0	0
	1,3 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	8	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
VOLATILES	1,2 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	8	0	0
	ETHLYENE DIBROMIDE	12	0	0	12	0	0	8	0	0	8	0	0
	TOTL TRIHALOMETHANES	12	0	2	12	12	0	8	8	0	8	8	0
*TOTAL SCAN VOLATILES		348	1	20	348	48	28	232	32	17	232	32	20
*TOTAL GROUP ORGANIC		1178	9	31	1205	56	38	608	32	21	572	32	23
TOTAL		1744	421	122	1844	458	176	1461	651	156	1345	581	151

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. Studies of long-term environmental trends and modelling may however, be adversely affected by the exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported with the code "<T". Results qualified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. The average of such data however, is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!IV	No Data: Inverted Septum
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded

!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
USD	Unreliable: Sample Decomposition Noted
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL						
FECAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = 0 (A1)**	
FEB	BDL	.	.	.	.	.
MAR	BDL	.	.	.	.	.
APR	0	.	.	.	.	.
MAY	0	.	.	.	.	.
JUN	59	.	.	.	.	.
JUL	0	.	.	.	.	.
AUG	0	.	.	.	.	.
OCT	1	.	.	.	.	.
NOV	2	.	.	.	.	.
DEC	90	.	.	.	.	.
STANDRD PLATE CNT MF ( )			**DET'N LIMIT = 0**		**GUIDELINE = 500/ML (A1)**	
FEB	.	0 <=>	.	6 <=>	.	.
MAR	.	1 <=>	.	35 T24	.	4 <=>
APR	.	0 <=>	.	.	.	290
MAY	.	0 <=>	.	.	.	0 <=>
JUN	.	0 <=>	.	53	.	900
JUL	.	17	.	.	.	1410
AUG	.	21	.	23	.	.
OCT	.	2 <=>	.	67	.	129
NOV	.	0 <=>	.	1 <=>	.	5 <=>
DEC	.	0 <=>	.	0 <=>	.	6 <=>
TOTAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = 5/100ML(A1)**	
FEB	40	0 T48	.	0 T24	.	.
MAR	88 A3C	0 T24	.	0 T24	.	0 T24
APR	BDL	0	.	.	.	0
MAY	4	0	.	.	.	0
JUN	300 <=>	0	.	0	.	0
JUL	100 <=>	0	.	.	.	0 A3C
AUG	BDL	0	.	0	.	.
OCT	220 <=>	0	.	0	.	0
NOV	230 A3C	0	.	0	.	0
DEC	250 A3C	0	.	0	.	0
T COLIFORM BCKGRD MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = N/A**	
FEB	288	0 T48	.	0 T24	.	.
MAR	6400 A3C	0 T24	.	0 T24	.	6 T24
APR	2200 A3C	0	.	.	.	6
MAY	9600 >	0	.	.	.	0
JUN	40000 >	0	.	6	.	62
JUL	58000 A3C	0	.	.	.	510 A3C
AUG	48000 A3C	0	.	6	.	.
OCT	14000 A3C	0	.	57	.	65
NOV	3000 A3C	0	.	0	.	4

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

		WATER TREATMENT PLANT			DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1		SITE 2		
			STANDING	FREE FLOW	STANDING	FREE FLOW	
DEC	3400 A3C	0	.	0	.	0	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.150	.200	.200	.	.
FEB	.	.070	.	.200	.	.
MAR	.060	.050	.	.	.	.
APR	.	.140	.	.	.	.
MAY	.	.200	.	.	.	.
JUN	.	.180	.000	.000	.000	.000
JUL	.	.160	.	.	.000	.000
AUG	.	.020	.200	.200	.	.
SEP	.	.160	.200	.000	.	.
OCT	.	.180	.200	.000	.000	.000
NOV	.	.080	.200	.000	.050	.050
DEC	.020	.130	.200	.000	.000	.000
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.400	.100	.100	.	.
FEB	.	.400	.100	.100	.	.
MAR	.380	.400	.300	.100	.	.100
APR	.	.300	.	.	.	.
MAY	.	.250	.	.	.	.100
JUN	.	.240	.300	.300	.000	.100
JUL	.	.400	.	.	.150	.100
AUG	.	.400	.100	.100	.	.
SEP	.	.270	.100	.300	.	.
OCT	.	.390	.100	.300	.000	.050
NOV	.	.420	.500	.300	.000	.000
DEC	.450	.400	.100	.300	.000	.100
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.550	.300	.300	.	.
FEB	.	.470	.100	.300	.	.
MAR	.440	.450	.300	.100	.	.100
APR	.	.440	.	.	.	.150
MAY	.	.450	.	.	.010	.100
JUN	.	.420	.300	.300	.000	.000
JUL	.	.560	.	.	.150	.100
AUG	.	.420	.300	.300	.	.
SEP	.	.430	.300	.300	.	.
OCT	.	.570	.300	.300	.000	.070
NOV	.	.500	.700	.300	.050	.050
DEC	.470	.530	.300	.300	.000	.100
FLD PH ( )			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	.	.	7.800	7.600	.	.
FEB	7.800	7.400	7.600	7.600	.	.
MAR	7.800	7.600	7.600	7.800	7.600	7.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	8.100	7.800	.	.	7.600	7.600
MAY	7.700	7.300	.	.	7.800	7.800
JUN	7.900	7.500	7.800	7.800	7.800	7.600
JUL	.	.	.	.	7.800	7.800
AUG	.	.	7.600	7.800	.	.
SEP	7.600	8.000	.	.	.	.
OCT	8.000	7.800	7.600	7.800	7.800	7.800
NOV	8.000	7.800	7.600	7.800	7.400	7.400
DEC	7.800	7.800	7.600	7.600	7.400	7.400
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	2.000	2.000	12.000	7.000	.	.
FEB	2.300	2.400	12.000	6.000	.	.
MAR	3.800	3.200	11.000	7.000	4.000	7.000
APR	7.800	8.400	.	.	10.000	8.000
MAY	8.000	9.300	.	.	13.000	11.000
JUN	16.100	16.800	19.000	15.000	20.000	17.000
JUL	.	13.100	.	.	23.500	22.000
AUG	23.000	22.000	22.000	20.000	.	.
SEP	20.000	20.000	20.000	19.000	.	.
OCT	12.000	12.500	17.000	15.000	14.000	13.500
NOV	5.500	6.000	16.000	11.000	9.000	8.000
DEC	1.000	2.000	14.000	9.000	7.000	5.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	9.000	.190	.	.	.	.
FEB	2.700	.200	.	.	.	.
MAR	2.100	.210	.	.	.	.150
APR	1.700	.210	.	.	.200	.200
MAY	1.500	.200	.	.	.210	.230
JUN	2.550	.560	.000	.000	.	.
JUL	1.400	.220	.	.	.	.
AUG	1.500	.290	.	.	.	.
SEP	.900	.350	.000	.000	.	.
OCT	1.500	.130	.000	.000	.330	.310
NOV	14.000	.260	.000	.000	.120	.130
DEC	17.000	.170	.000	.000	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	IIS	104.300	104.700	104.500	.	.
FEB	111.100	107.200	107.600	107.800	.	.
MAR	95.400	94.100	95.500	95.200	97.200	97.300
APR	107.700	106.000	.	.	107.200	107.400
MAY	102.200	97.900	.	.	99.200	98.900
JUN	98.300	93.800	96.100	95.600	96.900	95.500
JUL	106.100	100.700	.	.	101.700	100.900
AUG	99.600	94.500	95.800	95.700	.	.
SEP	103.000	96.200	96.700	IIS	.	.
OCT	103.700	99.400	101.300	101.500	101.300	101.400
NOV	103.800	101.900	106.400	104.000	103.600	103.000
DEC	106.900	101.900	101.300	100.900	100.900	100.500
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	IIS	40.400	40.000	40.800	.	.
FEB	41.600	41.600	43.000	42.200	.	.
MAR	36.000	36.800	37.600	37.600	37.600	37.800
APR	40.400	41.000	.	.	41.000	40.400
MAY	37.200	36.800	.	.	37.800	37.400
JUN	35.600	35.400	36.600	37.600	37.600	36.600
JUL	39.000	38.800	.	.	39.000	40.400
AUG	36.400	35.800	37.200	36.000	.	.
SEP	36.800	37.200	37.800	IIS	.	.
OCT	36.800	36.800	37.800	37.800	37.000	37.800
NOV	40.400	41.600	41.800	42.800	43.000	42.200
DEC	39.000	38.500	37.100	38.000	38.300	37.900
CYANIDE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = .200 (A1)	
JAN	BDL	BDL	.	BDL	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	.002 <T	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	IIS	17.800	.	17.300	.	.
FEB	16.900	18.000	18.200	18.200	.	.
MAR	14.000	15.100	15.500	15.400	15.500	15.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	16.700	18.500	.	.	18.400	18.400
MAY	14.700	15.900	.	.	15.900	15.800
JUN	15.100	16.500	16.800	16.500	16.500	16.500
JUL	15.100	17.300	.	.	17.100	17.100
AUG	14.600	16.300	16.500	16.300	.	.
SEP	14.600	16.200	16.200	IIS	.	.
OCT	14.900	16.300	16.400	16.400	16.400	16.400
NOV	14.500	16.400	16.200	16.200	16.000	16.000
DEC	15.000	16.100	15.700	15.600	15.400	15.300
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	IIS	.500 <T	5.000	9.500	.	.
FEB	3.000	1.000 <T	6.000	10.500	.	.
MAR	2.500	1.000 <T	7.500	8.000	6.500	6.000
APR	3.500	1.500 <T	.	.	5.000	5.000
MAY	1.500 <T	.500 <T	.	.	3.500	4.500
JUN	3.500	1.500 <T	4.500	6.500	4.000	4.000
JUL	2.000 <T	.500 <T	.	.	3.000	3.000
AUG	2.000 <T	1.500 <T	2.000 <T	2.500	.	.
SEP	2.000 <T	.500 <T	2.500	IIS	.	.
OCT	2.000 <T	1.000 <T	3.500	3.500	3.000	3.500
NOV	1.500 <T	1.000 <T	3.000	3.500	6.000	6.000
DEC	1.500 <T	1.000 <T	3.500	3.500	5.500	6.000
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
JAN	IIS	320	324	318	.	.
FEB	321	326	329	330	.	.
MAR	280	287	295	290	304	293
APR	323	327	.	.	330	329
MAY	292	296	.	.	296	295
JUN	291	292	296	294	295	293
JUL	298	302	.	.	303	300
AUG	282	285	290	287	.	.
SEP	289	290	292	IIS	.	.
OCT	294	298	301	299	304	299
NOV	293	309	312	309	307	305
DEC	305	308	305	303	302	301
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
JAN	IIS	.120	.100	.100	.	.
FEB	.120	.120	.100	.080	.	.
MAR	.100	.100	.120	.120	.100	.120
APR	.140	.120	.	.	.140	.140
MAY	.120	.140	.	.	.120	.100
JUN	.120	.100	.060	.060	.060	.060
JUL	.140	.120	.	.	.120	.120
AUG	.120	.100	.120	.120	.	.

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DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	.100	.100	.100	IIS	.	.
OCT	.120	.120	.100	.100	.100	.100
NOV	.120	.100	.120	.080	.080	.100
DEC	.120	.100	.100	.100	.100	.100
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
JAN	IIS	139.000	137.000	139.000	.	.
FEB	143.000	143.000	146.000	144.000	.	.
MAR	123.000	126.000	129.000	127.000	129.000	129.000
APR	139.000	139.000	.	.	139.000	137.000
MAY	127.000	127.000	.	.	129.000	127.000
JUN	124.000	124.000	125.000	128.000	129.000	127.000
JUL	133.000	133.000	.	.	133.000	136.000
AUG	126.000	126.000	128.000	125.000	.	.
SEP	128.000	128.000	129.000	IIS	.	.
OCT	129.000	129.000	131.000	131.000	128.000	131.000
NOV	138.000	142.000	143.000	146.000	146.000	145.000
DEC	134.000	132.300	128.000	129.900	129.900	129.100
IONCAL (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.000 NAF	.829	.000 NAF	.386	.	.
FEB	.868	.310	1.450	.117	.	.
MAR	3.620	1.963	4.023	3.534	2.936	2.912
APR	.590	.309	.	.	.168	1.996
MAY	2.702	3.835	.	.	2.850	3.361
JUN	1.813	1.823	2.792	.607	.361	1.178
JUL	1.175	.376	.	.	.234	2.494
AUG	.472	.659	.220	1.970	.	.
SEP	1.064	.603	.536	.000 NAF	.	.
OCT	1.521	1.441	2.135	1.905	2.905	1.514
NOV	2.839	2.301	.096	2.750	4.672	3.819
DEC	1.976	3.065	5.136	3.574	3.347	3.824
LANGELIERS INDEX ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.311	.178 NAF	.207	.	.
FEB	.421	.335	.331	.274	.	.
MAR	.235	.155	.308	.269	.242	.369
APR	.625	.564	.	.	.639	.573
MAY	.374	.229	.	.	.297	.381
JUN	.178	.155	.119	.269	.204	.237
JUL	.589	.542	.	.	.538	.561
AUG	.507	.226	.267	.233	.	.
SEP	.354	.189	.277	.	.	.
OCT	.395	.335	.374	.415	.373	.395
NOV	.396	.335	.376	.376	.307	.467
DEC	.559	.562	.574	.453	.387	.551

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DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)	
JAN	IIS	9.300	9.100	9.000	.	.
FEB	9.500	9.500	9.400	9.500	.	.
MAR	8.100	8.200	8.500	8.200	8.500	8.400
APR	9.100	9.000	.	.	9.000	8.900
MAY	8.400	8.600	.	.	8.300	8.200
JUN	8.600	8.700	8.300	8.300	8.500	8.500
JUL	8.600	8.700	.	.	8.700	8.500
AUG	8.600	8.800	8.600	8.600	.	.
SEP	8.700	8.600	8.300	IIS	.	.
OCT	8.900	9.000	8.900	8.800	8.800	8.900
NOV	9.000	9.400	9.400	9.400	9.400	9.500
DEC	8.900	8.800	8.600	8.500	8.300	8.350
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	IIS	10.000	9.600	9.800	.	.
FEB	10.400	10.200	10.600	10.600	.	.
MAR	8.000	8.000	8.400	8.200	8.400	8.200
APR	9.600	9.800	.	.	10.200	10.000
MAY	8.200	8.200	.	.	8.000	8.200
JUN	8.400	8.600	8.600	8.400	8.800	8.600
JUL	9.000	8.800	.	.	8.600	8.600
AUG	8.200	8.400	8.200	8.200	.	.
SEP	8.600	8.200	8.600	IIS	.	.
OCT	8.800	9.000	8.600	8.600	8.800	8.600
NOV	7.800	8.400	8.200	8.200	8.400	8.000
DEC	8.400	8.500	8.400	8.000	8.000	7.800
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	IIS	.002 <T	.354	.010	.	.
FEB	.024	.028	.146	.024	.	.
MAR	.012	.004 <T	.352	BDL	1.010	.002 <T
APR	.036	BDL	.	.	.232	BDL
MAY	.022	BDL	.	.	.076	BDL
JUN	.008 <T	.002 <T	.174	BDL	.056	BDL
JUL	.034	.008 <T	.	.	.082	.008 <T
AUG	.014	.002 <T	.102	.002 <T	.	.
SEP	.016	.002 <T	.130	IIS	.	.
OCT	.012	.004 <T	.186	.006 <T	.490	.002 <T
NOV	BDL	BDL	.208	BDL	.092	BDL
DEC	BDL	BDL	.168	BDL	.044	BDL
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	IIS	.002 <T	.003 <T	.004 <T	.	.
FEB	.007	.004 <T	.004 <T	.005	.	.
MAR	.007	.005	.006	.005	.005	.005
APR	.013	.003 <T	.	.	.004 <T	.004 <T

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DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.017	.003 <T	.	.	.001 <T	.001 <T
JUN	.007	.003 <T	.005	.004 <T	.003 <T	.003 <T
JUL	.013	.003 <T	.	.	.004 <T	.003 <T
AUG	.003 <T	BDL	.001 <T	.001 <T	.	.
SEP	.003 <T	BDL	BDL	IIS	.	.
OCT	.008	.003 <T	.004 <T	.004 <T	.002 <T	.003 <T
NOV	.002 <T	.001 <T	.001 <T	.001 <T	.001 <T	.002 <T
DEC	.003 <T	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
JAN	IIS	.315	.765	.320	.	.
FEB	.315	.330	.490	.350	.	.
MAR	.245	.180	.600	.175	1.270	.185
APR	.445	.460	.	.	.775	.515
MAY	.155	.140	.	.	.250	.150
JUN	.255	.230	.510	.230	.385	.285
JUL	.140	.120	.	.	.255	.155
AUG	.025	.010 <T	.190	.035	.	.
SEP	.105	.100	.275	IIS	.	.
OCT	.125	.140	.375	.120	.705	.125
NOV	.185	.270	.520	.225	.330	.220
DEC	.245	.235	.435	.220	.295	.220
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A	
JAN	IIS	.170	.590	.170	.	.
FEB	.250	.190	.340	.170	.	.
MAR	.220	.180	.580	.170	1.570	.200
APR	.360	.230	.	.	.490	.230
MAY	.270	.180	.	.	.250	.160
JUN	.270	.180	.390	.170	.240	.150
JUL	.300	.180	.	.	.240	.140
AUG	.250	.190	.330	.180	.	.
SEP	.260	.180	.310	IIS	.	.
OCT	.270	.170	.380	.180	.680	.170
NOV	.270	.150	.410	.130	.220	.130
DEC	.310	.200	.460	.180	.290	.160
PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	IIS	8.130	8.000	8.020	.	.
FEB	8.200	8.130	8.110	8.060	.	.
MAR	8.130	8.050	8.190	8.150	8.120	8.240
APR	8.430	8.370	.	.	8.440	8.380
MAY	8.230	8.110	.	.	8.160	8.250
JUN	8.070	8.070	8.010	8.150	8.080	8.130
JUL	8.410	8.390	.	.	8.380	8.390
AUG	8.380	8.130	8.150	8.130	.	.
SEP	8.210	8.070	8.150	IIS	.	.

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	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	8.250	8.210	8.230	8.270	8.240	8.250
NOV	8.210	8.150	8.170	8.170	8.100	8.270
DEC	8.380	8.410	8.440	8.310	8.240	8.410
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
JAN	IIS	.070 <T	.	.	.	.
FEB	.001 <T	.000 <T	.	.	.	.
MAR	.001 <T	.000 <T	.	.	.	.
APR	.001 <T	BDL	.	.	.	.
MAY	BDL	BDL	.	.	.	.
JUN	BDL	BDL	.	.	.	.
JUL	BDL	BDL	.	.	.	.
AUG	BDL	BDL	.	.	.	.
SEP	.001 <T	.000 <T	.	.	.	.
OCT	BDL	BDL	.	.	.	.
NOV	.003	.000 <T	.	.	.	.
DEC	.001 <T	BDL	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	IIS	BDL	.	.	.	.
FEB	.010	.002 <T	.	.	.	.
MAR	.007 <T	.002 <T	.	.	.	.
APR	.021	.005 <T	.	.	.	.
MAY	.014	.003 <T	.	.	.	.
JUN	.019	.011	.	.	.	.
JUL	.010	.002 <T	.	.	.	.
AUG	.010	.004 <T	.	.	.	.
SEP	.013	.010	.	.	.	.
OCT	.012	.003 <T	.	.	.	.
NOV	.029	.002 <T	.	.	.	.
DEC	.030	.002 <T	.	.	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
JAN	IIS	30.400	29.870	29.580		
FEB	27.010	30.680	30.860	31.730	.	.
MAR	18.900	23.250	22.170	21.990	.	.
APR	26.230	26.300	.	.	21.890	21.980
MAY	24.720	28.620	.	.	25.600	26.060
JUN	23.640	26.480	26.180	26.360	26.700	26.930
JUL	21.790	24.630	.	.	26.070	25.870
AUG	23.490	26.170	25.920	26.000	24.000	24.150
SEP	23.030	24.770	25.290	IIS	.	.
OCT	23.730	26.600	26.650	25.960	.	.
NOV	24.610	29.920	29.110	30.060	25.750	25.870
DEC	25.210	28.710	28.160	27.610	28.720	28.310
					27.400	27.430
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	

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DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	IIS	.440	.920	2.100	.	.
FEB	3.200	.280	1.280 RRV	2.600 RRV	.	.
MAR	1.500	.350	1.300	1.050	1.050	.970
APR	3.100	.300	.	.	.800	.810
MAY	1.300	.300	.	.	.940	.710
JUN	2.600	.450	.780	.900	.620	.570
JUL	1.900	.620	.	.	.950	.740
AUG	1.200	.370	.260	.290	.	.
SEP	1.150	.650	.500	IIS	.	.
OCT	3.600	.400	.800	.770	.700	.720
NOV	17.000	.150 <T	.530	.480	1.190	1.120
DEC	17.300	.270	.510	.500	.910	.970

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DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
METALS						
SILVER (UG/L)				DET'N LIMIT = .020 GUIDELINE = 50. (A1)		
JAN	BDL	.030 <T	.030 <T	BDL	.	.
FEB	.070 <T	.030 <T	.070 <T	.070 <T	.	.
MAR	BDL	BDL	BDL	.080 <T	BDL	BDL
APR	.040 <T	BDL	.	.	.050 <T	BDL
MAY	BDL	BDL	.	.	BDL	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	.050 <T	.	.	.040 <T	BDL
AUG	BDL	BDL	.330 <T	BDL	.	.
SEP	ISN	BDL	.110 <T	BDL	.	.
OCT	BDL	BDL	.060 <T	BDL	BDL	BDL
NOV	BDL	.040 <T	.040 <T	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)				DET'N LIMIT = .050 GUIDELINE = 100.(A4)		
JAN	185.600	56.840	46.400	41.760	.	.
FEB	74.240	62.640	45.240	37.120	.	.
MAR	52.200	84.680	64.960	59.160	66.120	67.280
APR	39.440	162.400	.	.	88.160	97.440
MAY	23.200	150.800	.	.	73.000	75.000
JUN	110.000	220.000	140.000	200.000	120.000	150.000
JUL	18.000	310.000	.	.	240.000	230.000
AUG	16.000	350.000	230.000	250.000	.	.
SEP	ISN	260.000	210.000	220.000	.	.
OCT	38.000	130.000	120.000	120.000	120.000	120.000
NOV	130.000	79.000	67.000	59.000	62.000	62.000
DEC	130.000	62.000	51.000	45.000	.870 <T	53.000
ARSENIC (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 50.0 (A1)		
JAN	.390 <T	BDL	BDL	BDL	.	.
FEB	1.200	.840 <T	.680 <T	.600 <T	.	.
MAR	1.100	.750 <T	.860 <T	.700 <T	.990 <T	.890 <T
APR	1.200	1.100	.	.	.780 <T	.710 <T
MAY	.740 <T	.080 <T	.	.	BDL	.260 <T
JUN	1.100	.860 <T	.640 <T	.820 <T	.700 <T	.710 <T
JUL	1.300	1.300	.	.	1.200	.950 <T
AUG	1.200	1.100	.650 <T	.710 <T	.	.
SEP	ISN	1.100	.760 <T	.600 <T	.	.
OCT	.620 <T	.330 <T	.130 <T	.240 <T	.140 <T	BDL
	.770 <T	2.300	1.900	.800 <T	.740 <T	.510 <T
	.900 <T	.280 <T	.230 <T	.280 <T	.110 <T	.300 <T
BARIUM (UG/L)				DET'N LIMIT = 0.020 GUIDELINE = 1000. (A1)		
JAN	27.000	22.000	22.000	20.000	.	.
FEB	22.000	21.000	22.000	21.000	.	.
MAR	20.000	20.000	21.000	20.000	21.000	21.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSENILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	21.000	20.000	.	.	20.000	20.000
MAY	23.000	23.000	.	.	23.000	24.000
JUN	22.000	21.000	23.000	23.000	23.000	24.000
JUL	24.000	23.000	.	.	24.000	24.000
AUG	22.000	22.000	21.000	20.000	.	.
SEP	ISM	22.000	22.000	22.000	.	.
OCT	22.000	21.000	21.000	21.000	21.000	20.000
NOV	23.000	23.000	23.000	22.000	21.000	20.000
DEC	25.000	22.000	22.000	21.000	7.200	22.000
BORON (UG/L)				DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)		
JAN	35.000	31.000	52.000	60.000	.	.
FEB	26.000	32.000	88.000	63.000	.	.
MAR	89.000	91.000	130.000	64.000	160.000	160.000
APR	71.000	75.000	.	.	27.000	44.000
MAY	20.000 <T	21.000	.	.	19.000 <T	46.000
JUN	33.000	24.000	33.000	25.000	29.000	25.000
JUL	51.000	45.000	.	.	50.000	51.000
AUG	49.000	38.000	33.000	24.000	.	.
SEP	ISM	47.000	20.000 <T	48.000	.	.
OCT	22.000	24.000	22.000	25.000	28.000	22.000
NOV	22.000	25.000	23.000	29.000	35.000	28.000
DEC	23.000	23.000	23.000	21.000	22.000	24.000
BERYLLIUM (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = N/A		
JAN	.020 <T	BDL	.020 <T	.020 <T	.	.
FEB	BDL	.020 <T	.250 <T	.110 <T	.	.
MAR	.330 <T	.270 <T	BDL	BDL	.030 <T	BDL
APR	.220 <T	.140 <T	.	.	.150 <T	.120 <T
MAY	.030 <T	BDL	.	.	BDL	.080 <T
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	.030 <T	.040 <T	.	.	.030 <T	.060 <T
AUG	.040 <T	BDL	.030 <T	BDL	.	.
SEP	ISM	.130 <T	BDL	.030 <T	.	.
OCT	BDL	.040 <T	BDL	.020 <T	.030 <T	BDL
NOV	BDL	.040 <T	BDL	BDL	.070 <T	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
CADMIUM (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)		
JAN	BDL	BDL	.060 <T	BDL	.	.
FEB	BDL	BDL	BDL	BDL	.	.
MAR	.060 <T	BDL	.210 <T	BDL	.060 <T	BDL
APR	.130 <T	BDL	.	.	.090 <T	.060 <T
MAY	.150 <T	.100 <T	.	.	BDL	BDL
JUN	.150 <T	.120 <T	.110 <T	BDL	.840	.470 <T
JUL	.080 <T	BDL	.	.	.730	.580
AUG	BDL	BDL	BDL	.060 <T	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	ISM	BDL	BDL	BDL	.	.
OCT	BDL	BDL	BDL	BDL	.070 <T	BDL
NOV	BDL	.070 <T	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.060 <T	.090 <T
COBALT (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
JAN	.360 <T	BDL	.050 <T	.050 <T	.	.
FEB	.290 <T	.250 <T	.300 <T	.290 <T	.	.
MAR	.080 <T	.050 <T	.060 <T	.040 <T	.030 <T	.040 <T
APR	.140 <T	.080 <T	.	.	.110 <T	.100 <T
MAY	.290 <T	.350 <T	.	.	.250 <T	.210 <T
JUN	.130 <T	.040 <T	BDL	.190 <T	.170 <T	.170 <T
JUL	.110 <T	.120 <T	.	.	.120 <T	.080 <T
AUG	.140 <T	.090 <T	.080 <T	.100 <T	.	.
SEP	ISM	.140 <T	.150 <T	.130 <T	.	.
OCT	.240 <T	.070 <T	.110 <T	.100 <T	.090 <T	.100 <T
NOV	.280 <T	.090 <T	.170 <T	.100 <T	.100 <T	.100 <T
DEC	.380 <T	.120 <T	.130 <T	.170 <T	BDL	.280 <T
CHROMIUM (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)			
JAN	1.700	.770 <T	2.800	3.500	.	.
FEB	.250 <T	.940 <T	6.900	4.200	.	.
MAR	1.900	2.000	3.100	1.100	3.900	3.900
APR	6.500	6.700	.	.	1.000 <T	2.700
MAY	.650 <T	1.300	.	.	.710 <T	9.400
JUN	2.500	1.200	1.500	.440 <T	1.900	.650 <T
JUL	5.900	4.800	.	.	6.200	6.600
AUG	5.000	2.900	2.000	.560 <T	.	.
SEP	ISM	5.300	.390 <T	5.000	.	.
OCT	.360 <T	1.400	.230 <T	1.300	3.700	.330 <T
NOV	.230 <T	BDL	BDL	1.800	3.700	1.600
DEC	.750 <T	BDL	BDL	BDL	BDL	.780 <T
COPPER (UG/L)			DET'N LIMIT = .100 GUIDELINE = 1000 (A3)			
JAN	2.900	1.200	20.000	6.500	.	.
FEB	1.800	1.600	29.000	5.700	.	.
MAR	1.400	1.200	26.000	5.500	25.000	9.300
APR	1.400	1.200	.	.	46.000	8.900
MAY	6.800	1.400	.	.	20.000	10.000
JUN	5.100	1.200	16.000	6.300	54.000	13.000
JUL	1.300	1.100	.	.	36.000	9.400
AUG	1.100	.880 <T	23.000	5.500	.	.
SEP	ISM	1.000 <T	17.000	6.000	.	.
OCT	1.300	1.100	21.000	6.200	27.000	5.500
NOV	1.400	1.200	33.000	7.100	29.000	5.600
DEC	1.500 <T	.910 <T	26.000	7.100	5.000 <T	7.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
IRON (UG/L)				DET'N LIMIT = 4.000 GUIDELINE = 300. (A3)		
JAN	380.000	10.000 <T	170.000	330.000	.	.
FEB	60.000	BDL	220.000	410.000	.	.
MAR	37.000 <T	BDL	260.000	300.000	210.000	200.000
APR	44.000 <T	BDL	.	.	160.000	150.000
MAY	28.000 <T	9.400 <T	.	.	130.000	130.000
JUN	73.000	13.000 <T	150.000	310.000	150.000	180.000
JUL	31.000 <T	BDL	.	.	150.000	100.000
AUG	24.000 <T	BDL	33.000 <T	62.000	.	.
SEP	ISM	BDL	97.000	110.000	.	.
OCT	70.000	BDL	130.000	140.000	99.000	110.000
NOV	240.000	11.000 <T	97.000	120.000	230.000	230.000
DEC	250.000	BDL	100.000	130.000	BDL	200.000
MERCURY (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = 1.000 (A1)		
JAN	.050 <T	.070	.	.050 <T	.	.
FEB	.060	.050 <T	.	.050 <T	.	.
MAR	.060	.080	.	.070	.	BDL
APR	.060	.060	.	.	.	BDL
MAY	.040 <T	.050 <T	.	.	.	.020 <T
JUN	.090	.130	.	.070	.	.020 <T
JUL	.120	.110	.	.	.	BDL
AUG	.100	.120	.	.060	.	.
SEP	.050 <T	.040 <T	.	.060	.	.
OCT	.110	.050 <T	.	.080	.	.020 <T
NOV	.070	.110	.	.080	.	BDL
DEC	.080	.060	.	.080	.	.030 <T
MANGANESE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 50.0 (A3)		
JAN	41.000	.710	10.000	16.000	.	.
FEB	3.300	.380 <T	12.000	22.000	.	.
MAR	2.900	.430 <T	13.000	15.000	3.700	3.400
APR	4.500	.430 <T	.	.	2.500	2.400
MAY	3.400	.900	.	.	2.900	3.000
JUN	5.000	.800	13.000	16.000	2.600	3.200
JUL	5.300	.570	.	.	13.000	2.100
AUG	4.800	.760	7.100	6.100	.	.
SEP	ISM	2.400	12.000	13.000	.	.
OCT	8.400	.740	10.000	10.000	2.800	2.600
NOV	20.000	.790	7.300	8.600	3.400	3.400
DEC	17.000	.800	5.800	7.100	BDL	3.900
MOLYBDENUM (UG/L)				DET'N LIMIT = 0.020 GUIDELINE = N/A		
JAN	.690	1.200	1.200	1.100	.	.
FEB	1.400	1.600	1.700	1.300	.	.
MAR	1.200	1.200	1.300	1.400	1.300	1.300
APR	1.200	1.200	.	.	1.100	1.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	1.400	1.500	.	.	1.300	1.500
JUN	1.500	1.400	1.400	1.700	1.400	1.500
JUL	1.400	1.600	.	.	1.400	1.400
AUG	1.300	1.200	1.300	1.200	.	.
SEP	ISM	1.500	1.400	1.500	.	.
OCT	1.000	1.100	1.000	1.100	1.000	1.100
NOV	.870	1.300	1.200	1.200	1.200	1.200
DEC	.880	1.200	1.200	1.100	1.500	1.000
NICKEL (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)			
JAN	2.000 <T	.940 <T	2.100	1.300 <T	.	.
FEB	2.000 <T	2.100	2.700	2.400	.	.
MAR	.320 <T	.280 <T	.600 <T	.500 <T	.260 <T	BDL
APR	.750 <T	.950 <T	.	.	.900 <T	.550 <T
MAY	2.500	1.900 <T	.	.	2.800	1.200 <T
JUN	1.300 <T	1.400 <T	2.300	1.200 <T	1.400 <T	1.100 <T
JUL	13.000	12.000	.	.	13.000	12.000
AUG	.590 <T	.450 <T	1.300 <T	.580 <T	.	.
SEP	ISM	.660 <T	4.400	.760 <T	.	.
OCT	1.600 <T	.810 <T	1.700 <T	.560 <T	1.100 <T	.580 <T
NOV	1.300 <T	.400 <T	2.100	.930 <T	2.700	.550 <T
DEC	2.200	1.700 <T	2.400	1.700 <T	.210 <T	1.700 <T
LEAD (UG/L)			DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)			
JAN	1.400	.070 <T	2.000	.390	.	.
FEB	.890	.310	3.000	1.100	.	.
MAR	.400	.250	2.200	.520	3.600	.370
APR	.300	.050 <T	.	.	2.200	.410
MAY	.270	BDL	.	.	1.200	.500
JUN	.350	1.100	2.200	.710	1.700	.740
JUL	.330	.050 <T	.	.	1.900	1.800
AUG	.170 <T	BDL	1.600	.640	.	.
SEP	ISM	.210	1.800	.800	.	.
OCT	.290	.180 <T	1.800	1.500	4.800	.560
NOV	.600	.150 <T	2.100	.310	1.500	.250
DEC	1.700	.090 <T	1.300	.370 <T	.250 <T	.510
ANTIMONY (UG/L)			DET'N LIMIT = .050 GUIDELINE = 146. (D4)			
JAN	.400	.500	.520	.470	.	.
FEB	.850	.800	.920	.850	.	.
MAR	.860	.700	.870	.780	.710	.970
APR	.650	.700	.	.	.720	.670
MAY	.730	.640	.	.	.710	.710
JUN	.880	.650	.880	.990	.830	.900
JUL	.550	.630	.	.	.660	.680
AUG	.710	.610	.740	.610	.	.
SEP	ISM	.690	.710	.660	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.550	.570	.600	.540	.580	.550
NOV	.330	.570	.650	.520	.440	.430
DEC	.550	.630	.520	.630	1.200	.850
SELENIUM (UG/L)				DET'N LIMIT = 0.200	GUIDELINE = 10. (A1)	
JAN	1.600 <T	1.300 <T	1.900 <T	1.600 <T	.	.
FEB	.660 <T	.850 <T	1.800 <T	5.600 <T	.	.
MAR	.510 <T	4.600 <T	3.500 <T	6.100 <T	2.800 <T	4.100 <T
APR	2.100 <T	2.300 <T	.	.	2.000 <T	1.400 <T
MAY	BDL	3.200 <T	.	.	.670 <T	1.800 <T
JUN	BDL	4.400 <T	3.300 <T	3.700 <T	3.900 <T	3.800 <T
JUL	3.100 <T	5.600	.	.	5.200	5.700
AUG	1.500 <T	3.000 <T	3.500 <T	3.600 <T	.	.
SEP	ISM	2.100 <T	1.900 <T	2.200 <T	.	.
OCT	BDL	BDL	1.100 <T	1.700 <T	BDL	BDL
NOV	BDL	2.400 <T	1.900 <T	1.400 <T	1.600 <T	1.200 <T
DEC	BDL	BDL	1.600 <T	BDL	1.100 <T	BDL
STRONTIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	190.000	180.000	170.000	170.000	.	.
FEB	170.000	170.000	190.000	180.000	.	.
MAR	160.000	170.000	170.000	160.000	170.000	170.000
APR	180.000	180.000	.	.	180.000	180.000
MAY	160.000	160.000	.	.	160.000	170.000
JUN	160.000	160.000	160.000	190.000	180.000	190.000
JUL	170.000	170.000	.	.	170.000	180.000
AUG	160.000	160.000	160.000	160.000	.	.
SEP	ISM	170.000	170.000	170.000	.	.
OCT	170.000	170.000	160.000	160.000	170.000	170.000
NOV	170.000	200.000	200.000	190.000	190.000	190.000
DEC	190.000	170.000	170.000	170.000	93.000	180.000
TITANIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	12.000	5.400	6.000	5.800	.	.
FEB	7.900	6.300	5.900	5.800	.	.
MAR	9.500	7.300	6.600	6.300	7.000	6.800
APR	3.100	2.200	.	.	2.000 <T	2.100
MAY	3.100	2.800	.	.	3.000	3.300
JUN	8.800	4.100	4.200	4.400	4.300	4.100
JUL	2.700	2.500	.	.	2.500	2.200
AUG	4.800	4.000	4.100	3.800	.	.
SEP	ISM	6.400	6.000	6.000	.	.
OCT	3.000	1.600 <T	1.600 <T	1.700 <T	1.600 <T	1.500 <T
NOV	6.100	2.700	2.100	2.600	2.600	2.700
DEC	5.600	1.900 <T	1.900 <T	1.900 <T	.640 <T	2.500 <T
THALLIUM (UG/L)				DET'N LIMIT = .010	GUIDELINE = 13. (D4)	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	.020 <T	BDL	.020 <T		
FEB	.020 <T	BDL	BDL	BDL	.	.
MAR	.030 <T	.100 <T	BDL	BDL	.	.
APR	BDL	.020 <T	.	.	.040 <T	.040 <T
MAY	BDL	BDL	.	.	.030 <T	.040 <T
JUN	BDL	BDL	BDL	.020 <T	BDL	BDL
JUL	BDL	BDL	.	.	.020 <T	BDL
AUG	.080 <T	.100 <T	BDL	.080 <T	BDL	BDL
SEP	ISM	BDL	.020 <T	BDL	.	.
OCT	BDL	BDL	.030 <T	.030 <T	.	.
NOV	BDL	.050 <T	BDL	.020 <T	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.020 <T	BDL
					BDL	BDL
URANIUM (UG/L)				DET'N LIMIT = .020	GUIDELINE = 100.(B1)	
JAN	.340	.370	.	.260	.	.
FEB	.640	.700	.630	.520	.	.
MAR	.480	.550	.500	.590	.430	.520
APR	.470	.500	.	.	.470	.510
MAY	.490	.380	.	.	.370	.400
JUN	.570	.560	.520	.510	.390	.520
JUL	.530	.530	.	.	.620	.550
AUG	.390	.460	.400	.480	.	.
SEP	ISM	.500	.480	.460	.	.
OCT	.350	.300	.270	.270	.310	.250
NOV	.350	.360	.250	.230	.220	.170 <T
DEC	.340 <T	.320 <T	.250 <T	.300 <T	.090 <T	.230 <T
VANADIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	.650	.300 <T	.180 <T	.200 <T		
FEB	.390 <T	.430 <T	.310 <T	.360 <T	.	.
MAR	.190 <T	.160 <T	.200 <T	.180 <T	.	.
APR	.270 <T	.180 <T	.	.	.220 <T	.190 <T
MAY	.250 <T	.320 <T	.	.	.170 <T	.160 <T
JUN	.380 <T	.400 <T	.300 <T	.320 <T	.200 <T	.250 <T
JUL	.270 <T	.450 <T	.	.	.210 <T	.270 <T
AUG	.220 <T	.410 <T	.280 <T	.310 <T	.330 <T	.310 <T
SEP	ISM	.310 <T	.260 <T	.250 <T	.	.
OCT	.250 <T	.320 <T	.230 <T	.210 <T	.	.
NOV	.520	.370 <T	.210 <T	.200 <T	.260 <T	.230 <T
DEC	.480 <T	.400 <T	.180 <T	.200 <T	.270 <T	.220 <T
					.170 <T	.210 <T
ZINC (UG/L)				DET'N LIMIT = .001	GUIDELINE = 5000. (A3)	
JAN	10.000	1.200	21.000	3.900		
FEB	3.100	2.000	17.000	2.900	.	.
MAR	2.400	2.100	11.000	3.100	.	.
APR	2.500	1.100	.	.	72.000	10.000
MAY	3.100	2.800	.	.	60.000	8.600
					35.000	11.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	3.200	2.800	7.500	3.600	40.000	12.000
JUL	1.500	1.300	.	.	26.000	7.900
AUG	1.400	1.300	9.800	2.600	.	.
SEP	ISN	1.600	11.000	2.500	.	.
OCT	2.500	1.700	12.000	3.300	45.000	8.100
NOV	3.000	.980 <T	13.000	2.100	38.000	6.600
DEC	2.900	1.100 <T	8.400	2.000 <T	.610 <T	6.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB						
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
JAN	1.000 <T	2.000 <T	.	2.000 <T	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	1.000 <T	.	1.000 <T	.	3.000 <T
APR	1.000 <T	1.000 <T	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	1.000 <T	BDL	.	BDL	.	BDL
JUL	2.000 <T	1.000 <T	.	.	.	BDL
AUG	1.000 <T	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	1.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T
NOV	1.000 <T	1.000 <T	.	1.000 <T	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
LINDANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)	
JAN	BDL	BDL	.	BDL	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	1.000
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L PHENOLICS)			DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	1.800	1.000	.	.	.	.
FEB	1.800	1.800	.	.	.	.
MAR	1.600	1.200	.	.	.	.
APR	1.800	2.000	.	.	.	.
MAY	.600 <T	.600 <T	.	.	.	.
JUN	1.000 <T	.800 <T	.	.	.	.
JUL	3.400	4.400	.	.	.	.
AUG	1.000 <T	1.600	.	.	.	.
SEP	2.400	1.800	.	.	.	.
OCT	2.800	.800 <T	.	.	.	.
NOV	2.000	1.000 <T	.	.	.	.
DEC	.600 <T	2.000	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSENILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES						
TOLUENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 24.0 (B4)		
JAN	BDL	BDL	.	BDL	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	.100 <T	.	BDL	.	.050 <T
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	.050 <T	.100 <T	.	.100 <T	.	.050 <T
JUL	BDL	BDL	.	.	.	BDL
AUG	.050 <T	.100 <T	.	BDL	.	.
SEP	BDL	BDL	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	.100 <T	.	BDL	.	BDL
ETHYLBENZENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 2.4 (B4)		
JAN	BDL	BDL	.	BDL	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	.050 <T
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	.050 <T
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	.050 <T	.	BDL	.	.
SEP	BDL	BDL	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
O-XYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 300 (B4)		
JAN	BDL	BDL	.	BDL	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	.050 <T	.	BDL	.	.
SEP	BDL	BDL	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
STYRENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 46.5 (D2)		
JAN	.100 <T	.050 <T	.	.150 <T	.	.
FEB	BDL	.050 <T	.	.150 <T	.	.
MAR	.100 <T	.200 <T	.	.150 <T	.	.300 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	.050 <T	.200 <T	.	.	.	.150 <T
MAY	.100 <T	.100 <T	.	.	.	.300 <T
JUN	.050 <T	.100 <T	.	.100 <T	.	.050 <T
JUL	.200 <T	.150 <T	.	.	.	.100 <T
AUG	.050 <T	.300 <T	.	BDL	.	.
SEP	.150 <T	BDL	.	IU	.	.
OCT	.100 <T	BDL	.	BDL	.	BDL
NOV	.050 <T	BDL	.	BDL	.	BDL
DEC	BDL	.100 <T	.	.050 <T	.	.050 <T
CHLOROFORM (UG/L)				DET'N LIMIT = .100	GUIDELINE = 350 (A1+)	
JAN	.900 <T	17.400	.	9.200	.	.
FEB	BDL	16.600	.	11.000	.	.
MAR	BDL	15.400	.	9.800	.	10.400
APR	.700 <T	30.700	.	.	.	23.100
MAY	BDL	16.800	.	.	.	10.300
JUN	BDL	28.800	.	22.300	.	18.500
JUL	BDL	26.500	.	.	.	18.300
AUG	BDL	20.700	.	16.700	.	.
SEP	BDL	22.300	.	IU	.	.
OCT	BDL	18.600	.	12.100	.	11.700
NOV	BDL	17.400	.	11.000	.	8.800
DEC	BDL	14.800	.	8.300	.	8.800
111, TRICHLOROETHANE (UG/L)				DET'N LIMIT = .020	GUIDELINE = 200 (D1)	
JAN	.100 <T	BDL	.	.140 <T	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.020 <T
DEC	BDL	BDL	.	.020 <T	.	.040 <T
CARBON TETRACHLORIDE (UG/L)				DET'N LIMIT = .200	GUIDELINE = 5.0 (D1)	
JAN	BDL	BDL	.	.200 <T	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	BDL	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 350 (A1+)		
JAN	.650	11.850	.	7.250	.	.
FEB	BDL	11.750	.	8.450	.	.
MAR	BDL	10.150	.	7.450	.	7.350
APR	BDL	12.100	.	.	.	8.100
MAY	BDL	9.700	.	.	.	6.000
JUN	BDL	13.100	.	10.600	.	8.200
JUL	BDL	13.450	.	.	.	8.850
AUG	BDL	11.600	.	10.200	.	.
SEP	.200 <T	11.500	.	IU	.	.
OCT	BDL	11.500	.	9.050	.	7.700
NOV	BDL	11.600	.	7.900	.	6.900
DEC	BDL	10.400	.	6.600	.	7.100
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)		
JAN	.400 <T	4.600	.	3.300	.	.
FEB	BDL	4.600	.	3.300	.	.
MAR	BDL	4.700	.	3.100	.	3.000
APR	BDL	3.500	.	.	.	2.100
MAY	BDL	4.700	.	.	.	2.800
JUN	BDL	4.600	.	3.700	.	3.100
JUL	BDL	5.400	.	.	.	3.600
AUG	BDL	5.200	.	4.400	.	.
SEP	.100 <T	5.300	.	IU	.	.
OCT	BDL	5.100	.	4.400	.	3.800
NOV	BDL	4.900	.	3.600	.	3.700
DEC	BDL	3.800	.	2.800	.	2.800
T-CHLOROETHYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 10.0 (C2)		
JAN	BDL	BDL	.	.100 <T	.	.
FEB	BDL	BDL	.	BDL	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	.050 <T	.	.	.	.050 <T
AUG	BDL	.150 <T	.	BDL	.	.
SEP	BDL	.100 <T	.	IU	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT ERIE (ROSEHILL WTP) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BROMOFORM (UG/L)				DET'N LIMIT = .200	GUIDELINE = 350 (A1+)	
JAN	BDL	.400 <T	.	.400 <T	.	.
FEB	BDL	.400 <T	.	.400 <T	.	.
MAR	BDL	BDL	.	.400 <T	.	.400 <T
APR	BDL	BDL	.	.	.	BDL
MAY	BDL	.400 <T	.	.	.	.200 <T
JUN	BDL	.400 <T	.	.200 <T	.	.200 <T
JUL	BDL	.600 <T	.	.	.	.400 <T
AUG	BDL	.600 <T	.	.600 <T	.	.
SEP	BDL	.600 <T	.	IU	.	.
OCT	BDL	.600 <T	.	.600 <T	.	.400 <T
NOV	BDL	.400 <T	.	BDL	.	.600 <T
DEC	BDL	1.200 <T	.	.400 <T	.	.400 <T
TOTL TRIHALOMETHANES (UG/L)				DET'N LIMIT = .500	GUIDELINE = 350 (A1)	
JAN	1.950 <T	34.250	.	20.350	.	.
FEB	BDL	33.350	.	23.150	.	.
MAR	BDL	30.250	.	20.750	.	21.150
APR	.700 <T	46.300	.	.	.	33.300
MAY	BDL	31.600	.	.	.	19.300
JUN	BDL	46.900	.	36.800	.	30.000
JUL	BDL	45.950	.	.	.	31.150
AUG	BDL	38.100	.	31.900	.	.
SEP	BDL	39.700	.	IU	.	.
OCT	BDL	35.800	.	26.150	.	23.600
NOV	BDL	34.300	.	22.500	.	20.000
DEC	BDL	30.200	.	18.000	.	19.100

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
PARATHION	NG/L	20.	50000. (B1)
PHORATE (THIMET)	NG/L	20.	2000. (B3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	90000. (B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	90000. (B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05 G)
METHYLENE CHLORIDE	UG/L	.500	50. (B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70. (D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0 (D5)
TRICHLOROETHYLENE	UG/L	.100	50. (B1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	60. (D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0 (B4)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0 (B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	140. (D5)